

REMARKS

The instant invention is drawn to compositions that are useful as sprayable hot melt adhesives. These compositions show improved adhesion after storage and improved wet adhesion (page 3, lines 7-14). The properties of prior commercial adhesives tend to deteriorate when stored (page 2, lines 10-11). In addition, a marked reduction in adhesion is found when these products are used in a wet state (page 2, lines 11-13). The instant invention improves the aforementioned properties by using novel compositions comprising a mixture of poly- α -olefins having a softening point of 70°C to 130°C, a needle penetration of 8.0 to 4.0 mm as measured in accordance with DIN 52010, and a melt viscosity at 190°C of 1,000 mPas to 20,000 mPas. In addition, the instant compositions comprise at least one oil having a viscosity of 20 to 300 mPas at 20° C; and at least one hydrocarbon resin having a softening range of 70°C to 140°C (page 3, line 15 to page 4, line 15).

Claims 15-35 are pending. Claims 15, 20, and 34 are amended. No claims are added or canceled.

Claim 20 stands rejected as allegedly indefinite. Applicants believe that the rejection is moot in view of the amendment to this claim specifying number average molecular weight. The basis for this amendment can be found, for example, at page 15, lines 18-26.

Claims 15-20 and 22-35 are rejected as allegedly obvious over U.S. Patent No. 5,763,333 (Suzuki) as evidenced by Iwami et al. and "Properties of Paraffinic SHELLFLEX Oils", and in view of U.S. 5,723,546 (Sustic). Claims 15 and 34 have been amended to include the needle penetration value for the mixture of poly- α -olefins. The basis for this amendment can be found, for example, on page 3, lines 18-26 of the specification.

Suzuki is lacking in at least two aspects when compared to the instant claims. First, Suzuki does not disclose poly- α -olefins with a needle penetration value in the range of the amended claims. Nothing in the other cited art cures this deficiency. For at least this reason, even if one were motivated to combine the cited art, one would not arrive at any instantly claimed invention. Applicants respectfully request reconsideration and withdrawal of the rejection.

Second, as acknowledged by the Office Action (page 3), Suzuki does not disclose a mixture of poly- α -olefins. The Office Action seeks to remedy this defect by using the

teaching of Sustic. Before a rejection for alleged obviousness can be predicated on a "combination of references," however, some motivation to combine the teachings of the prior art must be identified. An invention is not obvious under the patent laws simply because it is theoretically possible with the aid of hindsight to combine references in a manner that will yield the claimed invention. The prior art itself must suggest the desirability of the modification. *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). "A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field." *In re Kotzab*, 217 F.3d 1365, 1369, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000). "The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time." *In re Dembicza*k, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (quoting *Interconnect Planning Corp. v. Feil*, 774 F. 2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985)). To establish a *prima facie* case of obviousness, "there must be some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant." *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998). "In other words, the examiner must show reasons that the skilled artisan, confronted with the same problem as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

Applicants note that Sustic presents a variety of mixtures of poly- α -olefins which, as acknowledged by the Office Action (page 3), only some have a softening temperature and a melt viscosity consistent with the instant specification.¹ Any use of material from Sustic would involve picking and choosing from among species to arrive at any mixture that falls within the instantly used poly- α -olefins. Sustic provides no guidance as to which compositions would be appropriate for use in the instant invention. It is only with the Applicant's blueprint that such a selection can be made. Applicants respectfully submit that, for at least this reason, the rejection should be withdrawn.

¹ Table III of Sustic, for example, does not disclose blends with a softening point from 70 to 130 °C and a melt viscosity at 190 °C of 1,000 mPas to 20,000 mPas and a needle penetration of 8.0 to 4.0 mm

Further in regard to claim 17, Applicants believe that the viscosity of the adhesive of the instant invention is clearly outside the range taught by the cited art. The adhesive of Suzuki has a viscosity of 500 to 10,000 cps (or mPas) at 180 °C. The Office Action states that “viscosity does not tend to rise appreciably with temperature until the components near their softening points” (Office Action at page 4). Applicants believe, however, that it is well known by those skilled in the art that viscosity will approximately double when temperature is lowered by 10 °C making the adhesives of Suzuki considerably more viscous than the instant compositions. If the examiner is aware of evidence to the contrary, applicants ask that it be made of record. For at least this reason, even if one were motivated to combine the cited art, one would not arrive at any instantly claimed invention. Applicants respectfully request reconsideration and withdrawal of the rejection

Claims 15 and 21 stand rejected as allegedly obvious over Suzuki as evidenced by Iwami et al. and “Properties of Paraffinic SHELLFLEX Oils”, and in view of WO 97/33921 (Simmons). As discussed above, Suzuki has at least two deficiencies when compared to the instantly claimed invention. Simmons does not cure these deficiencies. For reasons completely analogous to those discussed for the previously discussed anticipation rejection, Applicants submit that this rejection should be withdrawn.

Claims 15, 24, 25, 27, and 29 are rejected as allegedly obvious over U.S. Patent No. 5,021,257 (Foster). Foster discloses a composition containing an amorphous propylene/hexene copolymer, a tackifier, and a substantially crystalline hydrocarbon wax (Col. 1, line 64 to Col. 2, line 19). A critical part of the Office Action’s rejection is the assertion that softening temperature of Foster’s poly- α -olefin would be the same as the poly- α -olefin of the instant claims (Office Action at page 7). The cited reasoning is that because the adhesive has a softening temperature of 90-125 °C and the hydrocarbon has a softening temperature in the same range, the poly- α -olefin would have a softening temperature in the same range. Applicants do not agree with this conclusion. The Office Action fails to account for all variables in its consideration. Foster requires at least one liquid tackifier having a softening point of from about 5 to about 30 °C (Col. 2, lines 32-36). When this additional variable is considered, it does not logically follow that the softening temperature of Foster’s poly- α -olefin must be in the range of 90 to 125 °C. Thus, this variable is unknown and the

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cited art cannot anticipate the instant claims. Applicants respectfully request reconsideration and withdrawal of the rejection.

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Accordingly, an early and favorable reconsideration of the rejections and an allowance of all of pending claims is earnestly solicited.

Respectfully submitted,

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